

AMENDMENTS TO THE CLAIMS

1. (Currently amended) An isolated polypeptide ~~comprising consisting of~~ an amino acid sequence ~~selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4 to SEQ ID NO:6, and SEQ ID NO:8 to SEQ ID NO:22~~ corresponding to the 34 kDa C-terminal portion of SEQ ID NO:2.

2-17. (Canceled)

18. (Currently amended) A method of treating a disease associated with a *Brachyspira* species, the method comprising administering to an animal an effective amount of (i) a polypeptide ~~comprising consisting of~~ the amino acid sequence ~~corresponding to the 34 kDa C-terminal portion~~ of SEQ ID NO:2 or (ii) the polypeptide of (i) together with an adjuvant, wherein the polypeptide can cause the animal to generate an immune response to the *Brachyspira* species.

19. (Canceled)

20. (Previously presented) The method of treating a disease according to Claim 18 wherein the disease is intestinal spirochaetosis.

21-22. (Canceled)

23. (Previously presented) The method according to Claim 18 wherein the animal is selected from the group consisting of: pigs, chickens, dogs, horses, cattle, sheep, fish, and humans.

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24. (Previously presented) A composition comprising a carrier and an immunogen wherein said immunogen is a polypeptide according to Claim 1.

25-26. (Canceled)

27. (Currently amended) An isolated polypeptide ~~comprising consisting of~~ an amino acid sequence that is at least 90% homologous to an amino acid sequence ~~selected from the group consisting corresponding to the 34 kDa C-terminal portion of SEQ ID NO:2 to SEQ ID NO:22~~ wherein the polypeptide can, when injected into an animal, cause the animal to generate an immune response to *Brachyspira* species.

28-31. (Canceled)

32. (Previously presented) The method of Claim 18, wherein the *Brachyspira* species is *Brachyspira pilosicoli*.

33. (Canceled)

34. (Currently amended) A method for treatment of infection with a *Brachyspira* species, the method comprising administering a therapeutically effective amount of a polypeptide ~~comprising consisting of~~ an amino acid sequence corresponding to ~~amino acid residues 305 to 563~~ the 34 kDa C-terminal portion of SEQ ID NO:2.

35. (Previously presented) The method of Claim 34, wherein the *Brachyspira* species is *Brachyspira pilosicoli*.

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